Remarks

Pursuant to the Examiner's request, the pending claims are attached as an Appendix and a duplicate copy of this Response is provided on a 3½ inch IBM format floppy disk.

By this amendment, independent claims 1, 11, 21 & 31 are amended to more particularly point out and distinctly claim applicants' protocol for producing a secure subspace for a transaction. Support for the amended claim language can be found throughout the application as filed. For example, reference FIG. 5 and the supporting discussion thereof. No new matter is believed added to the application by any amendment presented.

As previously indicated, applicants wish to note that the Clark et al. patent and the present application are commonly assigned to International Business Machines Corporation. In addition, Carl E. Clark is a common inventor to both the Clark et al. patent and the present application. Mr. Clark has contributed to this Response to Office Action and the amendments presented herewith are submitted in a bona fide attempt to advance prosecution of the application.

Claims 1-31 stand rejected under 35 U.S.C. §102(b) as being anticipated by Clark et al. (U.S. Patent No. 5,361,356). This rejection is respectfully traversed to any extent deemed applicable to the claims presented herewith, and reconsideration thereof is requested.

In accordance with the pending independent claims (e.g., claim 1), applicants disclose a technique for producing a secure subspace for a transaction. The technique includes, from an operating system task, attaching a subtask that will restrict application addressing. The operating system task has an associated dispatchable unit access list (DU-AL) with a plurality of subspace address environments and home space defined as base space. The attaching of the subtask includes defining one subspace address environment of the plurality of subspace address environments as home space within a dispatchable unit access list (DU-AL) associated with the subtask. The DU-AL associated with the subtask includes only the home space definition.

Applicants respectfully submit that Clark et al. do not anticipate their claimed invention. It is well settled that a claimed invention is not anticipated unless a single prior art reference discloses: (1) all the same elements of the claimed invention; (2) found in the same situation as the claimed invention; (3) united in the same way as the claimed invention; and (4), in order to perform the identical function of the present invention. In this instance, Clark et al. fail to disclose multiple elements of the present invention, and as a result do not anticipate, or even render obvious, applicants' invention.

Clark et al. disclose storage isolation with a subspace-group facility. A Branch in Subspace Group (BSG) instruction is executed in problem state (for example, by an application program) for providing a fast instruction branch between address spaces within a restricted group of address spaces called a subspace group. This subspace group contains two types of address spaces: a base space and any number of subspaces. This subspace group is set up in a control table associated with each dispatchable unit (DU).

Initially, applicants respectfully submit that the Clark et al. disclosure and applicants' claimed invention comprise distinct processes. For example, applicants recite from an operating system task having an associated dispatchable unit access list (DU-AL) with a plurality of subspace address environments and home space defined as base space, attaching a subtask that will restrict application processing. This functionality is not described, suggested or implied by Clark et. al.

For an alleged teaching of this aspect of applicants' invention, the Office Action references page 8, lines 25-34, as well as page 7, lines 30-56 of the printout copy of Clark et. al. mailed with the Office Action. However, a careful reading of this material, fails to uncover any teaching or suggestion of a technique where a subtask is attached from an operating system task, let alone attaching a subtask that will restrict application addressing as recited by applicants. As used in the present application, attaching a subtask means creating a new dispatchable unit of execution, i.e., a subtask that is related to the operating system task. This meaning is reinforced in the amended independent claims presented herewith wherein the operating system task is recited to have an associated DU-AL with a plurality of

subspace address environments and home space defined as base space, and wherein the attaching includes defining one subspace address environment of the plurality of subspace address environments as home space within a DU-AL associated with the subtask.

The above recitations are contrasted with the teachings of Clark et al. which only state at page 7, lines 30-56 that addressability for a program can be restricted. This concept of restricting addressability is separate and distinct from applicants' concept of attaching a new subtask (i.e., coding a new dispatchable unit of execution). The two are non-analogous and have no relation to one another. Clark et al. simply create a temporary, limited addressability restriction on an existing task. Because the two are distinct functions, applicants' respectfully submit that there is no anticipation of their invention based upon the teachings of Clark et al.

In addition, applicants' claimed invention modifies the content of control information on the subtask that is created. Specifically, applicants' claims recite that the attaching includes defining one subspace environment (of the plurality of subspace address environments in the DU-AL of the parent task) as home space within a dispatchable unit access list (DU-AL) associated with the attached subtask. To the extent relevant, the Clark et al. patent takes an existing task and changes certain addressing information within that task's DU-AL. Applicants' claimed invention changes control information within a DU-AL associated with a subtask from the parent task. As explained in the present application, the subtask DU-AL contains a slot which is referred to as the home space for the task. This home space is conventionally defined per task as the entire address space or base space, and a subtask conventionally has an associated DU-AL with the home space of the parent task. A careful reading of Clark et al. fails to uncover any discussion of the home space defined in particular, and thus, applicants respectfully submit that the normal address base identifier would be placed within the home space slot of any subtask created from the task discussed therein. In contrast, the present application recites limiting the defined home space in the DU-AL of the subtask to comprise a subspace address (i.e., a subspace identifier) from the plurality of subspaces listed in the DU-AL of the parent task.

Thus, the subtask that is created in applicants' process is further limited by and isolated by qualifying its home space as one subspace address environment. Further, the independent claims presented specify that the DU-AL associated with the subtask includes only the home space definition. In applicants' DU-AL of the subtask, the base space is empty except for the one subspace address environment defined as home space. In contrast, in Clark et al. a group of address subspaces are defined and included in the base space. Applicants' have advanced the state-of-the-art by producing a secure subspace for a transaction by providing functionality which allows for attaching of a new subtask from an operating system task and then defining the home space of the dispatchable unit access list associated with that new subtask to comprise one subspace address environment of the plurality of subspace address environments defined in the parent task's DU-AL. Clark et al. do not suggest or imply a similar process. In fact, the "home space" of the DU-AL is not even mentioned in page 13, lines 12-40 material of Clark et al. cited in the Office Action for this aspect of applicants' invention, nor is the home space of the DU-AL mentioned anywhere in Clark et al.

Advantageously, the above-noted aspects of applicants recited invention provide a secure subspace for a transaction. As used in the present application, the "secure subspace" is intended to distinguish applicants recited result from that of Clark et al. In Clark et al., a subspace management capability is described which enables one to protect from inadvertent errors. The Clark et al. approach is a reliability enhancement mechanism, whereas the claimed invention protects against purposeful attempts to get around the system. This difference results from the different processes employed in the present application and the prior Clark et al. patent.

In view of the clear differences noted above, applicants' respectfully submit that their invention as claimed in independent claims 1, 11, 21 & 31 is not anticipated by, or even obvious over, the disclosed techniques of Clark et al. Therefore, reconsideration and withdrawal of the rejection to these claims is respectfully requested.

The dependent claims are believed allowable for the same reasons as the independent claims from which they directly or ultimately depend, as well as for their own additional characterizations.

Applicants respectfully submit that all claims are in condition for allowance and such action is requested.

Applicants undersigned attorney is available should the Examiner wish to discuss this application further.

Respectfully submitted,

Kevin P. Radigan

Kevin P. Radigan
Attorney for Applicants
Registration No.: 31,789

Dated: February 23, 2004.

HESLIN ROTHENBERG FARLEY & MESITI P.C.
5 Columbia Circle
Albany, New York 12203-5160
Telephone: (518) 452-5600
Facsimile: (518) 452-5579